



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,493	04/08/2004	Cyrus Behroozi	TROPOS-1010-1	7285

7590 12/11/2007
Brian R. Short
Tropos Networks Patent Department
P.O. Box 641867
San Jose, CA 95164-1867

EXAMINER

JACKSON, BLANE J

ART UNIT	PAPER NUMBER
----------	--------------

2618

MAIL DATE	DELIVERY MODE
-----------	---------------

12/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/820,493	Applicant(s) BEHROOZI, CYRUS	
	Examiner Blane J. Jackson	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-11 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11 and 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 4-11 and 14-22 have been considered but are moot in view of the new ground(s) of rejection. In view of the amendment to the claims, Srikrishna is introduced to teach a first and second radio comprising a first and second filter bank operable to transmit/receive on a subset of transmission channels one channel at a time.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 2, 4-11 and 14-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Srikrishna et al. (US 7,031,293).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As to claim 1, Srikrishna teaches a wireless access node comprising:

a first radio operable to transmit/receive on a subset of one of at least N transmission channels, one channel at a time (figures 8, 9 and 10, column 5, line 11 to column 6, line 18, each relay node is equipped with two half-duplex wireless transceivers, each transceiver selected to operate on a selected 1 of 3 channels in the 2.4 GHz ISM band),

a second radio operable to transmit/receive on another subset of one-of the at least N transmission channels, a different channel at a time (figures 8, 9 and 10, column 5, line 11 to column 6, line 18, each relay node is equipped with two half-duplex wireless transceivers, each transceiver selected to operate on a selected 1 of 3 channels in the 2.4 GHz ISM band),

a first filter bank of less than N filters for filtering a first transmit/receive signal of the first radio (figure 10, column 9, line 51 to column 10, line 20, each transceiver of the

access node includes a channel filter configured as a tuned filter or composed of multiple switched channel filters for each channel being used), and

a second filter bank of less than N filters for filtering a second transmit/receive signal of the second radio, at least one of the pass-bands of the second filter bank being different than the pass-bands of the first filter bank (figure 10, column 9, line 51 to column 10, line 20, each radio includes a channel filter configured as a single tuned channel filter or multiple switched channel filters for each channel being used such as two filters for selectively operating on either two of the three channel band),

wherein N is greater than 2, and wherein the combination of the first radio and the second radio are operable to transmit/receive on all N transmission channels (column 7, line 46 to column 8, line 62, each radio of the access node is selected to operate on one of three channels in the 2.4GHz ISM band).

As to claim 2 with respect to channel 1, Srikrishna inherently teaches the first filter bank and the second filter bank are substantially electro-magnetically isolated to avoid self interference, column 4, lines 19-35.

As to claim 4 with respect to claim 1, Srikrishna teaches the access node is in communication with a first device and a second device, the first radio being in communication with the first device, and the second radio being in communication with the second device (figure 7, column 6, lines 10-18, each radio link has an uplink and downlink operating on different channels).

As to claim 5 with respect to claim 4, Srikrishna teaches the communication of the access node to the first device and the second device is reversible so that the first 2 radio is in communication with the second device and the second radio is in communication with the first device (figure 7, column 5, line 11 to column 6, line 41, the uplink and downlink channels are allocated or selected to eliminate self interference).

As to claim 6 with respect to claim 5, Srikrishna teaches the access node is within a mesh network, and the first radio is in communication with at least one of the first device and the second device depending upon a selected mesh network routing (.

As to claim 7 with respect to claim 6, Srikrishna teaches the access node is within a mesh network, and the second radio is in communication with at least one of the first device and the second device depending upon a selected mesh network routing (figure 4, column 4, line 65 to column 5, line 18, an embodiment of a wireless mesh network).

As to claim 8 with respect to claim 1, Srikrishna teaches $N=3$, and the first filter bank comprises two filters, and the second filter bank comprises two filters 9 (column 10, lines 13-26, each radio filter may be configured to comprise two switched filters or as a single tuned filter to select any two channels of a three channel band).

As to claim 9 with respect to claim 8, Srikrishna teaches at least one of the filters of the first filter bank filters signals of a different transmission channel than at least one of the filters of the second filter bank (column 10, lines 13-26, each radio filter may be configured to comprise two switched filters or as a single tuned filter to select any two channels of a three channel band, consequently, each radio could operate with one same or one different channel with respect to the other radio of the access node).

As to claims 10 and 11 with respect to claim 8, Srikrishna teaches each filter of the first filter bank has a corresponding complementary filter within the second filter bank (column 10, lines 13-26, each radio filter may be configured to comprise two switched filters or as a single tuned filter to select any two channels of a three channel band, consequently, each radio could operate with one same or one different channel with respect to the other radio of the access node).

As to claim 14, Srikrishna teaches a wireless mesh network comprising:

A plurality of wireless access nodes, each wireless access nodes in communication with at least one other wireless access node (figures 4-9, column 4, line 65 to column 5, line 18), each wireless access node comprising;

a first radio operable to transmit/receive on a subset of one of at least N transmission channels, one channel at a time (figures 8, 9 and 10, column 5, line 11 to column 6, line 18, each relay node is equipped with two half-duplex wireless

transceivers, each transceiver selected to operate on a selected 1 of 3 channels in the 2.4 GHz ISM band),

a second radio operable to transmit/receive on another subset of one-o-f the at least N transmission channels, a different channel at a time (figures 8, 9 and 10, column 5, line 11 to column 6, line 18, each relay node is equipped with two half-duplex wireless transceivers, each transceiver selected to operate on a selected 1 of 3 channels in the 2.4 GHz ISM band),

a first filter bank of less than N filters for filtering a first transmit/receive signal of the first radio (figure 10, column 9, line 51 to column 10, line 20, each transceiver of the access node includes a channel filter configured as a tuned filter or composed of multiple switched channel filters for each channel being used), and

a second filter bank of less than N filters for filtering a second transmit/receive signal of the second radio, at least one of the pass-bands of the second filter bank being different than the pass-bands of the first filter bank (figure 10, column 9, line 51 to column 10, line 20, each radio includes a channel filter configured as a single tuned channel filter or multiple switched channel filters for each channel being used such as two filters for selectively operating on either two of the three channel band),

wherein N is greater than 2, and wherein the combination of the first radio and the second radio are operable to transmit/receive on all N transmission channels (column 7, line 46 to column 8, line 62, each radio of the access node is selected to operate on one of three channels in the 2.4GHz ISM band).

As to claim 15 with respect to claim 14, Srikrishna teaches the mesh network comprises a gateway, and the access nodes allow a client communicate with at least one access node, providing communication between the client and the gateway (figures 4, 7 and 8, column 3, line 38-54 and column 4, line 65 to column 6, line 18, server (410)).

As to claim 16 with respect to claim 14, Srikrishna teaches the first radio is operable to communicate with a first device and a second device within the mesh network, and the second radio is operable to communicate with the first device and the second device within the mesh network (figure 8, column 6, line 51 to column 7, line 62, node Z (840), channels to individual links are assigned in a multi-hop mesh network).

As to claim 17 with respect to claim 14, Srikrishna teaches depending upon a selected routing within the mesh network, the first radio is in communication with at least one of the first device and the second device, and the second radio is in communication with the other of the first device and the second device (figure 8, column 6, line 51 to column 7, line 62, node Z (840), channels to individual links are assigned in a multi-hop mesh network)..

As to claim 18 with respect to claim 17, Srikrishna teaches the selected routing is dynamic (column 3, lines 38-54 and column 6, lines 51-66, a channel assignment scheme that adapts to new nodes and devices joining the system).

As to claim 19 with respect to claim 14, Srikrishna teaches the downstream data flows from the gateway to the client, and upstream data flows from the client to the gateway (figure 4, column 4, line 65 to column 6, line 18, each relay node is equipped with two wireless transceivers, one for the uplink and one for the downlink).

As to claim 20 with respect to claim 19, Srikrishna teaches the second radio and the first radio of each access node can be rotated between downstream data transmission and upstream data transmission (column 6, lines 3-18, each channel of each radio or transceiver is assigned).

As to claims 21 and 22, Srikrishna teaches each filter of the first filter bank has a corresponding complementary filter within the second filter bank (column 10, lines 13-26, each radio filter may be configured to comprise two switched filters or as a single tuned filter to select any two channels of a three channel band, consequently, each radio could operate with one same or one different channel with respect to the other radio of the access node).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blane J. Jackson whose telephone number is (571) 272-7890. The examiner can normally be reached on Monday through Thursday, 7:30 AM-6:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number:
10/820,493
Art Unit: 2618

Page 11

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Brian J. John". The signature is written in a cursive, flowing style with a large initial "B" and a long, sweeping tail.